

## Durham Research Online

---

### Deposited in DRO:

09 April 2009

### Version of attached file:

Published Version

### Peer-review status of attached file:

Not peer-reviewed

### Citation for published item:

Jaques, S. D. and Dobney, K. (2002) 'Avian signatures for identity and status in Anglo-Saxon England.', *Acta zoologica Cracoviensia*, 45 (Special issue). pp. 7-21.

### Further information on publisher's website:

[http://db.isez.pan.krakow.pl/AZC/pdf/azc\\_v/45/01.pdf](http://db.isez.pan.krakow.pl/AZC/pdf/azc_v/45/01.pdf)

### Publisher's copyright statement:

---

## Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full DRO policy](#) for further details.

## Avian signatures for identity and status in Anglo-Saxon England

Keith DOBNEY and Deborah JAKUES

Received: 23 Jan., 2002

Accepted for publication: 12 Mar., 2002

DOBNEY K., JAKUES D. 2002. Avian signatures for identity and status in Anglo-Saxon England. In: Proceedings of the 4th Meeting of the ICAZ Bird Working Group Kraków, Poland, 11-15 September, 2001. *Acta zoologica cracoviensia*, **45**(special issue): 7-21.

**Abstract.** The presence and diversity of wild bird remains recovered from archaeological sites can be used to explore questions beyond mere subsistence strategies and wildfowling techniques. A survey of 26 avian assemblages from English Anglo-Saxon vertebrate assemblages (broadly classified into settlement types) was undertaken in order to assess if interpretable patterns of data, reflecting attributes linked to the broader nature and character of settlements and their inhabitants, could be recovered. A more limited range of species were noted from ecclesiastical rural and early trading emporia (wics) compared with the high status estate and urban centres. A case study (using data from the well stratified assemblage from Flixborough, UK), supported broad conclusions drawn from the original survey by highlighting a possible ecclesiastical avian 'signature' at this site during the 9<sup>th</sup> century, with elements associated with high status identified from the 8<sup>th</sup> and 10<sup>th</sup> centuries. Further, more detailed, consideration of individual avian species (particularly Gruidae, Ardeidae and raptors) also suggest their association with particular categories of sites and their significance in identifying high status pursuits such as falconry.

**Key words:** Anglo-Saxon, bird bones, status, falconry.

Keith DOBNEY, Department of Archaeology, University of Durham, Durham DH1 3LE, UK.  
Deborah JAKUES, Palaeoecology Research Services, Dabble Duck Industrial estate, Shildon, County Durham, UK.

### I. INTRODUCTION

During medieval times in Western Europe, the hunting, procurement and consumption of elements of the wild fauna (e.g. birds and mammals) was directly linked to social identity and standing. Members of the aristocracy and nobility, if not directly engaged in the pursuit of wild animals, would certainly ensure that these were procured and consumed in varying quantities at feast times and religious festivals. Access to resources that added both quantity and diversity to the diet (which for the bulk of the population was probably severely limited in terms of meat – see ALBARELLA this volume), as well as to animals that were considered exotic or rare, afforded those of influence opportunities to display wealth and gain prestige befitting their social rank. This ensured that certain species and foodstuffs gained significance beyond mere calorific content or even taste.

Although the link between certain animals and status is well known for the later medieval period, its origins are less well known. In Britain, for example, it is pertinent to question whether these ideas and practises may have been part of the legacy of the Norman Conquest after 1066, in which a

foreign elite held sway over the main body of the indigenous Saxon population, or did it already exist in some form even earlier (e.g. in the preceding Saxon period)? Was bird exploitation at all important during the immediate pre-Norman (Saxon/Anglian) times in England and, if so, did it change through time and between different sites; was it influenced by the later advent of Norse influence and settlement?

This paper sets out to explore the evidence for bird exploitation in England during the Saxon period by: 1) utilising differences in the frequency and diversity of bird remains to infer the nature and character of some Saxon settlements in England, and 2) using the presence of certain species in order to throw further (new?) light on some specific high status activities.

## II. DO AVIAN SIGNATURES TELL US ANYTHING?

The range and frequency of wild and domestic species have long been used by zooarchaeologists in attempts to broadly classify sites, periods and even cultures. For the Saxon period in England, observations have been made regarding the nature and status of particular Anglo-Saxon settlement types based upon the presence/absence of wild species, particularly birds. For example, O'CONNOR (1991, 2002) highlighted the paucity of wild species at so-called "wic" sites (early trading emporia found around the navigable rivers and coast of the North Sea).

A survey of English Anglo-Saxon vertebrate assemblages was undertaken in order to further explore these observations, and here we present the evidence based on selected components of the avian fauna represented at 26 such sites. Not all bird species were incorporated into the survey. For example, the problems with the identification of wild and domestic representatives of the same species (in this case specifically geese – whose remains are usually common on Saxon sites) render any statements regarding the overall importance of wild species somewhat problematic. Thus, species were selected on the basis of their ease of identification and their known association with status linked to consumption and/or specific activities (e.g. falconry) during later medieval times. Other species were also included because of their known and consistent occurrence in Saxon vertebrate assemblages (see Table I for full list of species and families included). Table II and Fig. 1 show the presence/absence of the selected avian fauna identified at a number of Saxon sites in England. A total of 26 sites is represented, ranging in date from 6<sup>th</sup>-11<sup>th</sup> centuries A.D. They include a range of site types, broadly classified as: 1) rural, 2) ecclesiastical, 3) trading emporia (wics), 4) high status estate centres, 5) industrial and 6) urban.

Before interpreting the patterns observed in the data, it is important to bear in mind the problems associated with such a generalised scheme. First and foremost, it is essentially chronological in nature; a direct result of the vagaries of excavation opportunities and, to some extent, of the history of Anglo-Saxon research interests in England. As a result, direct comparison of sites of different function or character is limited by the fact that, for certain periods, particular types of site predominate. Thus, most rural sites are early to middle Saxon in date (circa late 5<sup>th</sup>-8<sup>th</sup> centuries AD), whilst those classified as Urban, are exclusively from the Late Saxon period (mid 9<sup>th</sup>-mid 11<sup>th</sup> centuries AD), and (at least from the North of England) have the added complexity of direct Norse influence. On the other hand most high status estate centres and wics are primarily of middle Saxon date (late 7<sup>th</sup> and 8<sup>th</sup> centuries AD). Ecclesiastical sites (usually regarded as monastic in nature) are primarily middle to late Saxon in date.

A second problem (related to the first) is the fact that such a broad classification inevitably masks a more complex reality. For example, ecclesiastical establishments and high status estate centres must have included many people of lower status, whilst some high status estate centres may also have associated with them a separate or integrated monastic element. The presence of these different elements at sites may therefore provide higher levels of 'background noise' to any simple interpretation of site status and character. A third and final problem is that few Anglo-Saxon sites have provided long, well-stratified (and well-dated) sequences. In the rare instances where these do

Table I

Bird taxa mentioned in present study (in systematic order)

Family	English name	Latin name
Phalacrocoracidae	Cormorant	<i>Phalacrocorax</i> sp.
Ardeidae	Grey Heron	<i>Ardea cinerea</i> LINNAEUS, 1758
	Bittern	<i>Botaurus stellaris</i> (LINNAEUS, 1758)
	Heron	<i>Ardeidae</i> indet.
Ciconiidae	Black Stork	<i>Ciconia nigra</i> (LINNAEUS, 1758)
Anatidae	Swan	<i>Cygnus</i> sp.
	Goose	<i>Anser</i> sp. or <i>Branta</i> sp.
	Duck	<i>Anatinae</i> indet.
Accipitridae	Red Kite	<i>Milvus milvus</i> (LINNAEUS, 1758)
	Sparrowhawk	<i>Accipiter nisus</i> (LINNAEUS, 1758)
	Goshawk	<i>Accipiter gentilis</i> (LINNAEUS, 1758)
	Common Buzzard	<i>Buteo buteo</i> (LINNAEUS, 1758)
Falconidae	Saker Falcon	<i>Falco cherrug</i> J. E. GRAY, 1834
	Gyr Falcon	<i>Falco rusticolus</i> LINNAEUS, 1758
	Peregrine Falcon	<i>Falco peregrinus</i> TUNSTALL, 1771
Tetraonidae	Black Grouse	<i>Tetrao tetrix</i> LINNAEUS, 1758
	Capercaillie	<i>Tetrao urogallus</i> LINNAEUS, 1758
	Peacock	<i>Pavo cristatus</i> LINNAEUS, 1758
Gruidae	Common Crane	<i>Grus grus</i> (LINNAEUS, 1758)
	Crane	<i>Grus</i> sp.
Strigidae	Eagle Owl	<i>Bubo bubo</i> (LINNAEUS, 1758)
Columbidae	Pigeon or dove	<i>Columba</i> sp. or <i>Streptopelia</i> sp.

exist, the interpretative potential to explore some of the complexities outlined above, is hugely increased (see case study below).

Despite these drawbacks, it is our contention that avian data presented in this way can still provide interpretable patterns, which appear to reflect some aspects of the nature and status of sites and their inhabitants.

### III. RESULTS FROM THE SURVEY

A more detailed consideration of the data (represented in Tables II, III and Fig. 1) clearly shows that the presence (or indeed absence) of particular groups of birds or individual species is very different between certain categories of sites. Thus, although all categories of sites consistently produce remains of Corvidae or duck species, high status estate centres and urban assemblages contain a much wider range of other species (i.e. Ardeidae, Tetraonidae, Accipitridae/Falconidae) than all other categories. They also show the only occurrences of species such as Peacock and Black Grouse. Ecclesiastical sites, far from having a wide range of bird species, in fact have perhaps the most restricted range of avian species of all site types, closely followed by sites classified as either rural or wic.

Table II

Selected wild bird species identified from 26 Anglo-Saxon sites from England by broad site category. \* = < 10 fragments, \*\* = 10-99 fragments, \*\*\*=>100

<div>Site category</div> <div>Site name</div>		Bird taxa										
		<i>Grus</i> sp.	Ardeidae	<i>Pavo cristatus</i>	Tetraonidae	<i>Milvus milvus</i>	<i>Buteo buteo</i>	<i>Accipiter gentilis</i>	<i>Falco peregrinus</i>	Corvidae	Anatinae	Columbidae
Rural:	West Stow	**	*				*			**		
	West Heslerton	**					*		**	*	*	
	Walton	*							*	*		
Wic:	Ipswich	*						*	*	**	*	
	Fishergate					*	*		*	*	*	
	London sites					*			*	*		
	Hamwic						*		*	**		
Ecclesiastical:	Holy Island	*										
	Jarrow								*	*		
	St Albans Abbey	*							*	*		
	Barking Abbey	**								**		
	Westminster Abbey	*					*		*	**	*	
Industrial:	Ramsbury					*		*		*		
High status centre:	Brandon	**	*				*	*	**	***		
	Flixborough	***	*		**	*	**		***	***	***	
	Wicken Bonhunt	**	*	*	*		*		**	**	**	
	Caister-on-sea									**	*	
	North Elmham Park	*	*			*	*		*	**	*	
	Northampton								*	*	*	
	Porchester Castle		*			*			*	**	**	
	Goltho						*		*	**		
Urban:	Thetford	*		*		*	*		*	**	*	
	Saddler St				*							
	Chalk Lane								*	*		
	Lincoln sites								*	**	*	
	Coppergate	*			**			*	**	**	**	
	Castle Mall	*	*				*	*	*	**	*	

If we compare the patterns at those sites classified as ‘urban’ and those as ‘high status estate centres’ the similarities between the two are quite apparent. As previously mentioned, these two categories of site also reflect a chronological shift from mid-late Saxon, a fact which allows us to view possible changes through time. The data presented here imply that no significant change in bird exploitation (in terms of the species selected in this study) occurred between these site types and through time. The fact that the patterns are broadly similar between site types can perhaps be ex-

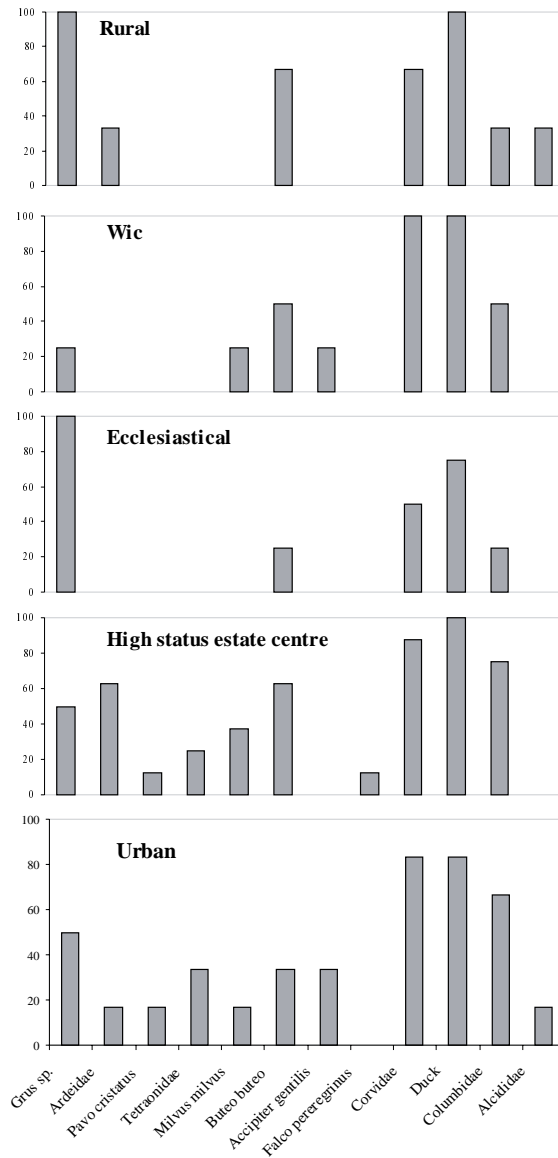


Fig. 1. Percentage of sites (by broad category) where selected bird taxa were present.

plained by the fact that there are (no doubt) also high status elements of the population present in the early urban centres of the Late Saxon period. One additional factor (which must be taken into account, particularly when dealing with Saxon sites from the midlands and North of England) is the influence of Norse/Viking settlers. Certainly urban centres in the North of England (e.g. York and Lincoln) were centres of Viking influence and trade from the mid 9<sup>th</sup> century onwards and archaeological evidence reflects this to some degree. However, the avian zooarchaeological data from this survey indicates that there was little or no change in bird exploitation from the 8<sup>th</sup>-11<sup>th</sup> centuries A.D.

Table III

Sites included in the survey (see also Table II)

Site category	Site name & References
Rural	West Stow, Suffolk – CRABTREE (1989) West Heslerton, East Yorkshire – RICHARDSON. J. (pers. comm.) Walton, Aylesbury – NODDLE (1976)
Wic	Ipswich, Suffolk – CRABTREE (submitted 1994 unpublished report; 1996); JONES & SERJEANTSON (1983) Fishergate, York – O’CONNOR (1991) London sites (Peabody and National Gallery) - WEST (1989 issued 1993). Melbourne Street, Southampton - BOURDILLON & COY (1980)
Ecclesiastical	Holy Island, Northumberland - ALLISON et al. (1985) St.Alban’s Abbey, Hertford - CRABTREE (Unpublished report – submitted 1983). Barking Abbey and Westminster Abbey, London - WEST (unpublished report – submitted 1989). Jarrow, Tyne and Wear – NODDLE (1987)
Industrial	Ramsbury, Wiltshire – COY (1980)
High status centre	Brandon, Suffolk – CRABTREE (Unpublished report – submitted 1991; 1996) Flixborough, North Lincolnshire – DOBNEY et al. (forthcoming). Wicken Bonhunt, Essex – CRABTREE (Unpublished report – submitted 1995; 1996) Caister-on-Sea, Norfolk – HARMAN (1993) North Elmham Park, Norfolk – BRAMWELL (1980) St Peter’s Street, Northampton – HARMAN (1979) Porchester Castle – EASTHAM (1976) Goltho, South Lincolnshire – JONES & RUBEN (1987)
Urban	Thetford, Norfolk – JONES (1984, 1993) Saddler Street, Durham – RACKHAM (1979) Chalk Lane, Northampton – COY (1981) Lincoln sites (Waterfront and Upper city) – DOBNEY et al. n.d [1996]. Coppergate, York – O’CONNOR (1989) Castle Mall, Norwich – ALBARELLA et al. (1997)

Of course it could be argued that the patterns outlined above simply reflect varying sample sizes between the different categories of site, where larger assemblages would be expected to produce more bird taxa. However, some sites from all categories (with perhaps the exception of ecclesiastical ones) have produced large vertebrate assemblages, meaning that the patterns observed here must be explained by more than sample size alone. The following case study lends further support to this argument.

#### Testing avian signatures on individual sites: Flixborough: a case study

The complex and well-dated middle-late Saxon site of Flixborough is perhaps unique among the sites presented in this survey. The presence of large (and systematically recovered) vertebrate and other finds assemblages from within a series of tightly dated phases, allow us to explore in some detail the evidence for social and economic change at an unusually refined level. The data from this site can, therefore, be used to address several of the problems outlined previously.

The site, discovered and excavated in 1989 during sand quarrying, overlooks the floodplain of the River Trent, near Scunthorpe. Digging revealed exceptional remains of an Anglo-Saxon settlement, dating from the mid 7th to 10th centuries AD. The circumstances of site formation, involving the habitation phases and major refuse dumping episodes, have ensured the survival of stratified deposits containing a vast quantity of artefacts and animal bones (the latter comprising approximately 35,000 identified and a further 100,000 unidentified bone fragments). The avian component of the animal bone assemblage was very large; a total of 11,601 identifiable fragments, of which perhaps 1876 could be definitively assigned as wild species. These included numerous bones of Common Crane, together with those of ducks, wild geese, several raptor species along with some wading birds, gamebirds and corvids. Some of the crane and geese bones were in fact identified by the application of ancient DNA techniques (BARNES *et. al.* 2000; HAYNES 2000; DOBNEY *et. al.* forthcoming).

Although broadly classified as a high-status Saxon estate centre, the range and quality of the evidence from the site indicates that its nature and character may have changed significantly during approximately 300 years of occupation. In short, a wide range of archaeological evidence hints at the possibility of a significant change occurring at the site, beginning in the early 9<sup>th</sup> century (LOVELUCK and DOBNEY 2001). A series of artefactual assemblages of early-mid 9th century date from Flixborough, particularly the presence of styli (reflecting literacy amongst at least an element of the inhabitants) and coloured window glass, may suggest characters previously associated with monastic/ecclesiastical sites elsewhere. Whilst it may not be the case that the site became a monastic settlement during the 9th century, it is evident from the evidence outlined above that a significant monastic component was certainly present during this time. Therefore, this single multi-phased site provides an intriguing case study on which to test some of the crude attributes of the avian signatures detailed previously.

The avian data from Flixborough indicate that the range (and quantity – except in the case of ducks) of wild bird species from the 9<sup>th</sup> century (phase 4-5b) was lower, when compared to the earlier mid-late 8<sup>th</sup> (phase 3b) and the 10<sup>th</sup> centuries (phase 6) (Table IV). In terms of the selected species detailed previously, the signature appears to reflect that proposed for ecclesiastical sites outlined earlier. In contrast, the signatures from phase 3b and phase 6 compare best with those of high status estate centres (see Table II). This change in diversity at the site can be illustrated by the application of a simple biological statistic – Fisher's Alpha diversity index. This uses the number of taxa and the minimum number of individuals for each to calculate an index (alpha). Fisher's alpha

Table IV

Selected wild bird species identified from the different settlement phases at Flixborough. (Compare with signatures outlined in Table II). \* = <10 fragments, \*\* = 10-99 fragments, \*\*\* = >100

<div>Proposed character?</div> <div>Date (phase)</div>		Bird taxa										
		<i>Grus</i> sp.	Ardeidae	<i>Pavo cristatus</i>	Tetraonidae	<i>Milvus milvus</i>	<i>Buteo buteo</i>	<i>Accipiter gentilis</i>	<i>Falco peregrinus</i>	Corvidae	Anatinae	Columbidae
High status estate centre:	Mid-late 8th century (3b)	***	*		**	**	**			**	**	**
Ecclesiastical ?:	9th century (4-5b)	**					*			**	***	**
High status estate centre:	10th centurv (6)	**			*	*	*			**	**	**



values ( $\pm$  the standard error) were calculated for the avian assemblage from phases 3b, 4-5b and 6 from Flixborough (see Fig. 2). These data show the Fisher's alpha value for phase 4-5 b to be the lowest of the three phases.

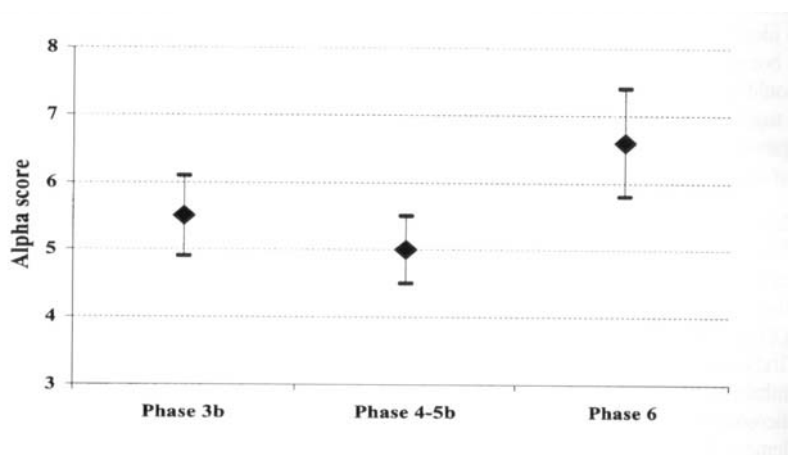


Fig. 2. Fisher's Alpha diversity index applied to the Flixborough bird assemblage (see Table IV for phase dates).

### The possible significance of individual avian species

It would appear from the evidence presented so far that the diversity and quantity of avian species in this survey can indeed provide important information about the character and nature of Saxon settlements. However, the presence of particular species may also be of some specific significance, especially when we consider the possible evidence of certain high status activities during these times. Thus, when considering the individual bird species or families, further interesting patterns emerge.

Remains of Common Crane appear to be surprisingly ubiquitous on almost all categories of sites. In terms of the categories of sites where this species has been recorded, however, it is present at every ecclesiastical and rural site considered, at less than 50% of estate centres and urban sites, and is absent from all but one site classified as a wic (i.e. the site of Ipswich – see further). During the later medieval period, the hunting and consumption of crane (like certain other wild species of mammal, bird, and fish) was considered to be an important symbol of wealth, prestige and status (see ALBARELLA and THOMAS 2002). However, evidence presented here appears to indicate that crane was perhaps a more common component of the diet during Anglo-Saxon times.

Although this picture may be biased by the relatively few rural and strictly ecclesiastical sites available for analysis (and the assumptions of high and low-status assigned to each), access to crane meat may not have been a reflection of status in itself. This may have been bestowed on individuals by the way it was hunted and captured and even perhaps tamed. In this respect the presence of species of the Ardeidae family (i.e. Bittern and Grey Heron) and Red Kite are perhaps even more enlightening (Tables II, III and Fig. 1). Unlike crane, their remains appear to be almost exclusively associated with high status estate centres, and the reason for this may lie in the fact that these are also associated with the extremely high status sport of falconry or hawking.

### Historical evidence for Anglo-Saxon falconry

Although the antiquity and geographical origins of falconry are unclear (DOBNEY 2000, in press) has claimed that it could be as early as 10,000BP in the Near East), it is clear that the art of

hawking (catching wild game using tame birds of prey) was well known to the inhabitants of northern Europe from the 6<sup>th</sup> century onwards. The 6<sup>th</sup> century laws of some Germanic tribes make various indirect references to the importance of falconry through fines imposed for the theft or killing of a person's hawks (EPSTEIN 1943). The size of the fine depended upon the value of the bird based on its hunting prowess. It is very apparent from slightly later literary sources that the sport of falconry was important to the Anglo-Saxon inhabitants of England. OGGINS (1981), in his seminal paper on falconry in Anglo-Saxon England, illustrates a number of examples, the first being the earliest dated record of falconry in England. In a letter by St Boniface (an 8<sup>th</sup> century missionary to the continent) written to King Ethelbald of Mercia (one of the Saxon kingdoms in Southern England) around AD 745-746, he alludes to the gift of a hawk, two falcons, two shields and two lances. In a slightly later correspondence (748-755), King Ethelbert of Kent wrote to St Boniface in Germany asking him to procure two hawks for crane hawking. He specifically asks for birds, that should have "skill and courage enough." It appears, however, that St Boniface objected to the recreational aspects of hawking. In a letter written to Cuthbert, Archbishop of Canterbury in AD 747, he states that "The servants of God we forbid to hunt and wander in the woods with dogs and to keep hawks and falcons" (KYLIE 1911: 178).

By the late 8<sup>th</sup> century, hawkers are recorded as established members of the Mercian royal household. A charter of king Burgred of Mercia (of AD 855) exempted the minister at Blockley (Gloucestershire) from certain dues including "the feeding and maintenance of all hawks and falcons in the land of Mercians" (SAWYER 1968). This suggests that the maintenance of trained hunting birds was a significant drain on the purse of individuals, making their ownership all the more the preserve of the privileged.

The absence of any references to falconry or hawking in the Old Irish texts, and the specific fact that the heroes of the 8<sup>th</sup> and 9<sup>th</sup> centuries are portrayed as having hounds but no hawks (KELLY 1997: 303), may well indicate that this sport was in fact introduced into England by the Saxon/Frisian aristocracy.

In all these literary sources, the birds that are mentioned or inferred are all hawks or falcons. The wildfowler in Aelfric's Colloquy mentions hawks as one of a range of methods of catching bird and in it mention is made of a "bigger hawk and a smaller one...", although no indication of species is given (see translation by SWANTON, 1996: 111). The special falcons requested by King Ethelbert to undertake crane-hawking were almost certainly large Gyrfalcons. All these references outlined above are exclusively linked with aristocrats, nobility and even the king, which indicates that the sport of falconry (as with certain other forms of hunting) held a special place in the social order during Saxon times. A full six centuries later, the 'boke' of St Albans (dating from the 14<sup>th</sup> century) details how specific species of raptor were utilised by various ranks of nobility. The 'Egle', 'Bawtere' and 'Melowne' were birds used by an 'Emprowre', the 'Gerfawken' the bird used by a king, the 'Fawken Gentill' the bird used by a prince, and the 'Goshawke' that of a yeoman (OGGINS 1989). It is probable, from the available literary sources, that social ranking (associated with the use of hawking birds) was already present in Anglo-Saxon England.

#### Archaeological evidence for Anglo-Saxon falconry

Little exists in the archaeological record that definitively shows the presence of trained birds of prey, and the limited evidence that does exist, is somewhat circumstantial. PRUMMEL (1997) outlines five types of evidence that could be used to infer the presence of hawking. The first is the presence of specific falconer's equipment, whilst the second is described as the direct association of raptor bones with the remains of humans (i.e. buried singly or together with their human masters). As far as we are aware, little or no elements of the small finds assemblages at any site from this period can be conclusively linked with the sport of falconry. However, birds of prey have been found in graves of date 5<sup>th</sup>-7<sup>th</sup> centuries at Thuringia, Germany (MULLER 1993; TIMPEL 1990), and the cremated remains of Goshawks, Peregrines and Merlins have been found in cremation burials in Sweden dating from the 6<sup>th</sup>-9<sup>th</sup> centuries A.D. (STEN and VRETEMARK 1988).

PRUMMEL's third, fourth and fifth types of evidence are somewhat more circumstantial in nature, but likely to be more common in the archaeological record. These are: i) the presence of raptor bones from species that are traditionally associated with hawking, ii) a bias towards female birds (which are larger than their male counterparts and thus considered more useful at supplying food for the table, and iii) the bones of species that constituted their prey (i.e. numerous small and medium-sized birds and mammals).

At the mid 8<sup>th</sup>-late 10<sup>th</sup> century Slavonic castle of Oldenburg, in Ostholstein, Northern Germany, several of these lines of evidence are well represented (PRUMMEL 1997). The remains of Goshawk and Sparrowhawk represented as much as 15% of the wild bird assemblage at this site and females of these two species outnumbered males by as much as 2:1 and 3:1 respectively. In addition, possible prey species associated with hawking were also recovered from the bone assemblage at Oldenburg and included members of the Columbidae, Turdidae, Corvidae, Phasianidae, Anatidae and Leporidae families. Some larger birds such as Grey Heron, goose, Cormorant, Black Stork, Bittern and swan were also identified.

#### R e m a i n s o f t r a d i t i o n a l h a w k i n g b i r d s

How does the evidence from Anglo-Saxon England relate to the lines of evidence outlined by PRUMMEL (1997)? Hawking birds associated with human remains have been recognised. For example, two raptor (species not specified) terminal phalanges have been identified from the Anglo-Saxon cemetery of Spong Hill, along with the cremated remains of a range of other wild and domestic animals. However, both have been perforated in order presumably to be worn as beads or amulets (BOND 1994: 134).

Few sites have produced the remains of what could be considered to be hawking birds themselves. In this survey, only five of the twenty-seven vertebrate assemblages contained the remains of Goshawk or Peregrine. Of these, only one is from a high status estate centre (Brandon). The remaining examples are from urban contexts (Coppergate in York and Castle Mall in Norwich), a so-called Iron Smelting site (Ramsbury) and one from a wic (Ipswich). If we assume that these birds were indeed used for falconry, then (on the face of it) the zooarchaeological evidence for actual hawking birds does not apparently tie with the historical evidence for this as a high status pursuit during Saxon times. If the evidence is considered in more depth, however, these patterns can be informative. For example, the occurrence of hawking birds in urban contexts is most easily explained by the fact that early urban centres must have comprised numerous individuals at every level of the social hierarchy. Thus, high status individuals (with their hawking birds etc.) may have either permanently resided or certainly intermittently visited these early centres of commerce. Hawking birds were also probably bought and exchanged in urban centres, which may perhaps explain the presence of Goshawk bones from excavations of tenements at Coppergate, York where much archaeological evidence for trade and commerce was apparent.

Identification of the remains of Peregrine Falcon at the so-called iron-smelting site of Ramsbury is, at face value somewhat puzzling. This, and other evidence however, indicates that its classification as merely "industrial" is perhaps too simplistic. Only a small portion of the site was excavated and certainly much evidence of iron smelting was recovered. However, a range of industrial processes (including ironworking) have also been identified from a number of estate centres (e.g. Flixborough) indicating that a range of activities was carried out at these middle and later Saxon high status sites. Other vertebrate remains identified from Ramsbury include numerous wild animals, such as red deer and beaver that, like the Peregrine Falcon, support the conclusion that this was also a settlement of high status.

As previously mentioned, the site of Ipswich also appears to be the only so-called wic site where remains of a hawking bird have been identified. It is thought that the wics (or emporia) were early trading centres, an expression of administered long-distance trade encouraged and stimulated by royal patronage. It is thought that their evolution and development was aimed at maximising the hitherto irregular trade for import of luxury goods (HODGES 1982: 60). Perhaps some of those lux-

ury goods were in the form of live falcons, gifts of which are mentioned in Anglo-Saxon texts (see earlier). Alternatively, it could be argued that the zooarchaeological evidence from Ipswich may be reflecting the additional 'background noise' (briefly discussed earlier) associated with a site which was perhaps more complex in character.

### Buzzards and kites as evidence for falconry

Table II shows that there are only five sites where the remains of species traditionally used for hawking have been recovered. However, there are considerably more sites (i.e. a total of 14) where the remains of several other genera of raptor (specifically Red Kite and Common Buzzard) have been found. The remains of scavenging birds such as buzzards and kites is usually and most simply explained by the killing (or natural death) of birds which were present in the vicinity of a site, and which were attracted by human waste and refuse. The remains of Red Kite, for example, which have also commonly been found in urban zooarchaeological assemblages (from Roman and Medieval times), have led O'CONNOR (1993) to infer a former more common and largely commensal status. The ornithologist Francis Willughby (writing in the late 17<sup>th</sup> century) indicated that "...they are noisome to take birds, especially chickens, ducklings and goslings... Yea so bold are they that they affect to prey in cities and places frequented by men; so that the very gardens, and courts or yards of houses are not secure from their ravine. For which cause our good housewives are very angry with them, and of all birds hate and curse them most (RAY 1678: 75 Book II)." There may, however, be several additional or alternative explanations for their presence in Saxon and later medieval deposits.

Buzzards are quite large birds of prey that, although largely scavengers, can be (and were) trained to catch a limited range of live prey. Although buzzards are not normally regarded as being suitable for falconry, the Common Buzzard is quite often trained by the novice and, on rare occasions, will take a rabbit (OSWALD 1982: 50). JAMESON, (1976: 95) commenting on the qualities of the Common Buzzard states that "Anyone not acquainted with them in the field is apt to get the false impression that they are lethargic and not as graceful in flight as other hawks". He goes on to state "They lack the finish of other hawks, but when on the wing they can be masters of aerial locomotion." FORD (1982: 39) suggests that "the buzzard is a reasonably tough bird, which is able to withstand a certain amount of mismanagement in finding its flying weight. It is blessed with a relatively even temperament, and the work put in on manning is quickly rewarded. It is not easy to lose, working reasonably close to the falconer, and can, with much perseverance take rabbit, moorhen, hare and squirrel".

Remains of buzzard were noted from 13 of the 27 sites included in this survey, representing all site categories, although their highest incidence is from high status estate centres. Could these remains indeed be from birds used for the purposes of hawking? It is entirely plausible. The lower status of the buzzard as a hawking bird in later medieval times may explain the reason why this bird is found at such a wide variety of site types.

But what of the Red Kite? During later medieval times, they (like buzzards) were sometimes also employed as an essential part of particular wildfowling strategies. Tame Red Kites were traditionally used as decoys in order to prevent wildfowl/waterfowl from taking to the wing. "Fowlers were wont to employ a trained kite to trap with their nets a covey while it lay fearful of their enemy above, the game being so terrified that they were heedless of any other possible danger" (JAMESON 1976: 100). The use of live-trained kites was later superseded by paper or cloth silhouettes (kites) in the shape of a bird of prey, which were kept aloft by the wind. Thus, while the soaring kite (real or virtual) kept the birds from taking flight, attendant fowlers could employ a range of techniques to catch numerous birds – on the ground or in the water (FOLKARD 1859).

Alternatively, Red Kite remains may simply have been (in common with a number of the other wild bird species previously discussed) yet another prey species of the inhabitants at Flixborough, but one which may once again reflect the high status of the inhabitants. During the Tudor period, kite-hawking (i.e. the hunting of Red Kites with other birds of prey – either Gyrfalcons or Saker Fal-

cons) was regarded as perhaps the stateliest of all forms of falconry and the sport of princes (HARTING 1970: 157). Henry VIII is said to have rode out of London to the great heaths of Royston, Newmarket and Thetford for days or in some cases for several weeks of sport with Gyrfalcons, which included the hunting of Red Kites. HARTING (1970: 157-167) describes the details of the hunt in which the kite was brought within range of the falcons. To avoid the kite soaring continually above the hunting falcons, a decoy was used to bring the kite to a lower altitude. This could be a tame Eagle Owl (called by the French "Le Grand Duc", or by the Germans "Uhu") which was released with a foxes "brush" (i.e. tail) tied to its jessies. The kite, thinking it was carrying prey, descended in order to rob it of its prize, whereupon the Gyrfalcon would be slipped. According to HARTING (1970), the best description of kite hawking is provided by the French falconer Charles D'Arcussia in his Treatise on falconry which describes kite hawking with Louis XIII. This sport continued to be practised in England by the noble classes until 1773, when the last recorded kite hawking probably took place with Lord Orford and Col. Thornton's Gyrfalcons, although the sport was certainly still practiced in India with Saker Falcons at the turn of the century (HARTING 1970).

In our survey of Anglo-Saxon assemblages, the remains of Red Kite have been identified at only six out of 27 sites. However, all except one are from high status estate and urban centres (the individual from Ramsbury can perhaps also be considered high status – see earlier), which seems a strange pattern if all these were merely the remains of scavenging commensal individuals.

### Large avian species as evidence for falconry

Many more sites have produced vertebrate assemblages in which the remains of potential prey species of hawking birds have been identified. Unfortunately, many different mammals and birds could have been hunted and caught using raptors, but they could equally well have been caught in a number of other ways (bird lime, snares, nets, drugged bait etc.). The mere presence of a potential prey species at a site, therefore, cannot be used to infer direct evidence of falconry. However, certain specific species are perhaps of greater significance in this respect than others.

Many authors cite numerous pre 19<sup>th</sup> century references to larger bird species being the preferred quarry of the nobility, particularly when using Goshawks and other large raptors to hunt (e.g. LASCELLES 1892; MICHELL 1972; MOLLEN 1968; EVANS 1973). These species included birds such as Grey Heron, goose, Great Bustard and especially Common Crane, and even other raptors such as the Red Kite (see above).

Hunting these birds with specially trained (and expensive) hawks (usually Goshawks) was considered to be fine sport and the sole preserve of high-ranking individuals. JAMESON, (1976: 70) states that "...the most formidable quarry (apart from the goose) was the crane. It is a wary animal, which requires careful stalking and attack. To place the hawk close enough for flight the falconer hid with the Goshawk in a blind near where cranes were known to feed. The prospective prey was then baited and grain concentrated near the blind. When a crane ventured near, the hawk was slipped and the falconer hurried to aid the hawk since such a large prey could injure it. Egrets and herons were also hunted this way".

This form of hunting is depicted on one of the scenes from the Cotton Tiberius Calendar – the illustration for the month of October. It clearly portrays a Saxon noble on horseback, with a large bird (most certainly a large raptor of some kind) on his right fist, riding towards an even larger, long-necked bird which appears to be oblivious to his approach. Its overall shape, stance and characteristic cap of red plumage, leaves one in no doubt that this is a deliberate portrayal of a Common Crane. Opposite the mounted noble is a person on foot also with a large bird (presumably also a raptor) on his right fist. This bird, with wings outstretched, is about to be "slipped" (i.e. released) at the crane and/or the various ?geese that are also depicted in and around a small pond/lake within the scene.

Other contemporary sources also indicate the high status of hawking and falconry, and the significance of certain quarry species. For example, the Chief Falconer (the fourth officer at the Welsh court – the tenth officer was the Chief Huntsman) was honoured with three presents on the day his hawk killed one of the three notable birds (i.e. a crane, Grey Heron or Bittern according to the Di-



mention code – or crane, Grey Heron or Curlew in the Gwentian code). Is it mere coincidence that these species have been commonly identified from a number of the high status Anglo-Saxon sites detailed in Table II, in addition to a range of other bird species which could also have been hunted (i.e. Black Grouse, wild geese, ducks, waders and pigeons)?

Finally, the case of the Ardeidae in this survey is an intriguing one. As previously mentioned, unlike crane, their remains have been recorded almost exclusively from high status sites. Although it is argued that cranes, Bitterns and Grey Herons were probably hunted using falcons (as well as other methods), does the evidence indicate that heron and bittern were perhaps regarded as even higher status game than crane? There is little evidence to support this hypothesis. However, sources from later medieval times indicate that herons were for many years protected by statute, and in fact during the reign of Henry VII it was prohibited to take herons by any other means than by hawking or long-bow (FOLKARD 1859: 194).

#### IV. CONCLUSIONS

Although somewhat crude in its application and general in its assumptions, the use of so-called vertebrate signatures as a tool to aid the characterisation of sites (in this case the Saxon period) appears, at a superficial level at least, to merit further exploration. Broad patterns do appear to exist in the data, which reflect attributes linked to the nature and character of settlements and their inhabitants. In addition diversity and the presence or absence of certain species can also provide useful and complimentary information. In this survey, both approaches appear to imply that some of the high status sporting and dining pastimes, traditionally associated with the high and later medieval times, may actually have their roots in England during the Saxon period.

Of course, such an approach obviously provides interpretative potential that goes well beyond that normally associated with the study of animal bones (e.g. the reconstruction of environment, diet or procurement strategies). However, it must not be forgotten that in order to understand more fully what these “vertebrate signatures” might mean, they must be viewed within a much wider interpretative framework that must also include the full range of archaeological and (where appropriate) historical evidence.

#### REFERENCES

- ALBARELLA U., BEECH M., MULVILLE J. 1997. The Saxon, Medieval and Post-medieval mammal and bird bones excavated in 1989-1991 from Castle Mall, Norwich (Norfolk). Ancient Monuments Laboratory Report (New Series) 72/97. English Heritage, London.
- ALBARELLA U., THOMAS R. 2002. They dined on crane: bird consumption, wild fowling and status in medieval England. [In:] Proceedings of the 4th Meeting of the ICAZ Bird Working Group Kraków, Poland, 11-15 September, 2001. *Acta zoologica cracoviensia*, **45**(special issue): 23-38.
- ALLISON E., LOCKER A., RACKHAM D. J. 1985. The animal remains (83-85). [In:] D. O'SULLIVAN – The excavation in Holy Island Village 1977. *Archaeologia Aeliana*, **13**: 27-116.
- BARNES I., YOUNG J. P. W., DOBNEY K. M. 2000. DNA based identifications of goose species from two archaeological sites in Lincolnshire. *Journal of Archaeological Science*, **27**: 91-100.
- BOND J. 1994. The cremated animal bone. [In:] J. MCKINLEY – The Anglo-Saxon cemetery at Spong Hill, North Elmham Part VIII: The cremations. East Anglian Archaeology, Report No. 69: 121-135. Norfolk Museum Service, Norfolk.
- BOND J. M., O'CONNOR T. P. 1999. Bones from medieval deposits at 16-22 Coppergate and other sites in York. The Archaeology of York AY 15(5). Council for British Archaeology, London.
- BOURDILLON J., COY J. 1980. The animal bones. [In:] P. HOLDSWORTH (ed.) – Excavations at Melbourne Street, Southampton, 1971-6. Council for British Archaeology Research Report **33**: 79-118.
- BRAMWELL D. 1980. Identification and interpretation of the bird bones. [In:] P. WADE-MARTINS – North Elmham Park. Vol. II. East Anglian Archaeology No. 9: 409-412.
- COY J. 1980. The animal bones. [In:] J. A. HASLAM – Middle Saxon iron smelting site at Ramsbury, Wiltshire. *Medieval Archaeology*, **XXIV**: 41-51.

- COY J. 1981. Bird bones from Chalk Lane [Northampton]. Ancient Monuments Laboratory Report (Old Series) 3450. English Heritage, London.
- CRABTREE P. 1989. West Stow, Suffolk: Early Anglo-Saxon Animal husbandry. East Anglian Archaeology Report No. 47. Suffolk County Planning Department, Ipswich.
- CRABTREE P. 1996. Production and consumption in an early complex society: animal use in Middle Saxon East Anglia. *World Archaeology*, **28**(1): 58-75.
- CRABTREE P. (Unpublished report – submitted 1983). Report on the animal bones from the Chapter House at St. Alban's Abbey.
- CRABTREE P. (unpublished report – submitted 1991). The faunal remains from Brandon.
- CRABTREE P. (unpublished report – submitted 1994). The animal bone remains from Ipswich, Suffolk recovered from sixteen sites excavated between 1974 and 1988.
- CRABTREE P. (unpublished report – submitted 1995). Animal bones recovered from Wicken Bonhunt, Essex.
- DOBNEY K, JAQUES D., IRVING B. n.d. [1996]. Of butchers and breeds. Report on vertebrate remains from various sites in the City of Lincoln. Lincoln Archaeological Studies 5.
- DOBNEY K. 2000. Ancient Falconry. [www.firstscience.com](http://www.firstscience.com) Internet Science Recruitment website.
- DOBNEY K. (in press). Flying a kite at the end of the Ice Age: The possible significance of raptor remains from epipalaeolithic and early neolithic sites of the Middle East. [In:] H. BUITENHUIS et. al. – Archaeozoology of the Near East: Proceedings of the 5<sup>th</sup> international symposium on the archaeozoology of Southwestern Asia and adjacent areas.
- DOBNEY K. M., JAQUES S. D., BARRETT J., JOHNSTONE C. (forthcoming). Farmers, monks and aristocrats: The role of animals at the high status middle-late Saxon settlement of Flixborough, North Lincolnshire, UK. Oxbow books, Oxford.
- EASTHAM A. 1976. The animal bones (287-296). [In:] B. W. CUNLIFFE – Excavations at Porchester Castle, Volume II: Saxon. Report of the Research Committee of the Society of Antiquaries of London 33. Society of Antiquaries, London.
- EPSTEIN H. J. 1943. The origin and earliest history of falconry. *Isis*, **34**: 497-509.
- EVANS H. 1973. Falconry. John Bartholomew, Edinburgh.
- FOLKARD H. C. 1859. The wildfowler. Piper, Stephenson and Spence, London.
- FORD E. 1982. Birds of prey. Batsford, London.
- HARMAN M. 1979. The mammalian bones. [In:] J. H. WILLIAMS – St Peter's Street Northampton, excavations 1973-1976, Northampton. Northampton Development Corporation Archaeological Monographs 2: 328-32.
- HARMAN M. 1993. The animal bones. [In:] M. DARLING, D. GURNEY – Caister-on-Sea. Excavations by Charles Green 1951-5. East Anglian Archaeology, Report No. 60: 233-8.
- HARTING J. E. 1898 (reprinted 1970). Hints on the management of hawks and practical falconry. The Tabard Press Ltd., London.
- HAYNES S. 2000. The history of wild and domesticated vertebrates deduced from modern and ancient DNA sequences. Unpublished PhD. Thesis, University of York.
- HODGES R. 1982. Dark Age economics: The origins of towns and trade AD 600-1000. Duckworth, London.
- JAMESON E. W. 1976. The hawking of Japan: the history and development of Japanese falconry. Davis, California.
- JONES G. G. 1984. Animal bones. [In:] A. ROGERSON, C. DALLAS – Excavations in Thetford 1948-59 and 1973-80. East Anglian Archaeology Report No. 22: 187-192.
- JONES G. G. 1993. Animal bone (176-191). [In:] C. DALLAS – Excavations in Thetford by B K Davidson between 1964 and 1970. East Anglian Archaeology. 62.
- JONES R. T., SERJEANTSON D. 1983. The animal bones from five sites at Ipswich. *Ancient Monuments Laboratory Report* Old Series, No: 3951. English Heritage, London.
- JONES R. T., RUBEN I. 1987. Animal bones, with some notes on the effects of differential sampling (197-206). [In:] G. BERESFORD – Goltho: the development of an early medieval manor c 850-1150. English Heritage Archaeological Reports 4. HBMCE.
- LASCELLES G. 1892 (reprinted 1971). The Art of Falconry. Neville Spearman, London.
- LOVELUCK C, DOBNEY K. 2001. A match made in heaven or a marriage of convenience? The problems and rewards of integrating palaeoecological and archaeological data. [In:] A. ALBARELLA (ed.) – Environmental archaeology: meaning and purpose. Kluwer.
- MICHELL E. B. 1972. The Art and Practice of Hawking. The Holland Press, London.
- MOLLEN A. 1968. Jaarboeken van het Nederlands: Valkeniersver- bond.
- NODDLE B. 1976. Report on the animal bones from Walton, Aylesbury. [In:] M. FARLEY – Saxon and Medieval Walton, Aylesbury: excavations 1973-4. Records of Buckinghamshire **20**(2): 153-290.
- NODDLE B. A. 1987. Animal bones from Jarrow. 3rd Report. *Ancient Monuments Laboratory Report* (New Series) No: 80/87. English Heritage, London.
- O'CONNOR T. P. 1989. Bones from Anglo-Scandinavian levels at 16-22 Coppergate. The Archaeology of York AY 15(3). Council for British Archaeology, London.

- O'CONNOR T. P. 1991. Bones from 46-54 Fishergate. *The Archaeology of York. A.Y.* **15**(4). Council for British Archaeology, London.
- O'CONNOR T. P. 1993. Birds and the scavenger niche. *Archeofauna*, **2**: 155-62.
- O'CONNOR T. P. 2002. On the interpretation of animal bone assemblages from wic sites. [In:] D. HILL et. al. (eds) – *Wics and Emporia: the pre-Viking trading centres of Europe*. John Collis Publications, Sheffield.
- OGGINS R. S. 1981. Falconry in England in the Anglo-Saxon period. *Mediaevalia*, **7**: 173-208.
- OGGINS R. S. 1989. Falconry and medieval social status. *Mediaevalia* **12**: 43-55.
- OSWALD A. 1982. *The history and practice of falconry*. Neville Spearman, Jersey.
- KELLY F. 1997. *Early Irish farming*. Dundalgen Press, Louth.
- KYLIE E. 1911. *The English correspondence of St. Boniface*. Chatto and Windus.
- MULLER H. H. 1993. Falconry in central Europe in the Middle Ages. [In:] *Exploitation des animaux sauvages a travers le temps. 4e Colloque international de l'Homme et l'Animal*. Juans-Ies-Pins. Editions APDCA: 431-437.
- PRUMMEL W. 1997. Evidence of hawking (Falconry) from bird and mammal bones. *International Journal of Osteoarchaeology*, **7**: 333-338.
- RACKHAM J. 1979. Animal resources (47-54). [In:] M. O. H. CARVER – *Three Saxo-Norman tenements in Durham City*. *Medieval Archaeology*, **23**: 1-80.
- RAY J. 1678. *The ornithology of Francis Willughby of Middleton in the County of Warwick*. Royal Society London.
- SAWYER P. H. 1968. *Anglo-Saxon Charters: An annotated list and bibliography*. Royal Historical Society, London.
- STEN S., VRETEMARK M. 1988. Storgravsprojektet – osteologiska analyser av yngre järnålderns benrika brandgravar. *Fornvänen*, **83**: 145-176.
- SWANTON M. 1996. *Anglo-Saxon Prose*. Everyman. Vermont, London.
- TIMPEL W. 1990. Das frankische Graberfeld von Alach, Kreis Erfurt. *Alt-Thüringen*, **25**: 61- 155.
- WEST B. (1989 issued 1993). Birds and Mammals from the Peabody site and national Gallery. [In:] R. L. WHITEHEAD, R. COWIE (eds) – *Excavations at the Peabody site, Chandos Place and the National Gallery*. *Transactions of the London and Middlesex Archaeological Society*, **40**: 150-168.
- WEST B. (unpublished report – submitted 1989). Birds and Mammals. [In:] D. J. RACKHAM (ed.) – *Saxon Environment and Economy in London*.